Let a Tree Fall, We'll Have Power to Hear It: Lake County Converts Power Lines

Full Mitigation Best Practice Story

Lake County, Minnesota

Lake County, MN - Loss of power can be devastating at any time, but when the annual average temperature reaches only 40 degrees Fahrenheit, providing power to Minnesota customers can be life saving. Cooperative Light and Power Association of Lake County (CLP) has fought the battle of wind and ice storms and saving lives many times. Located along the remote northern shore of Lake Superior in northeastern Minnesota, CLP services many customers in very isolated locations. These customers depend on their power throughout the heavily forested county.

Providing power during severe storms is a battle CLP has to win, and they knew that to win successfully, they needed to mitigate rather than simply repair the damages time and again.

On July 4, 1999, a strong thunderstorm caused severe tree blowdown and power outages in CLP's service area. The subsequent disaster declaration allowed CLP to conduct its first mitigation project. CLP received $53,438 in the Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Grant Program (HMGP) funding, administered by the Minnesota Division of Homeland Security and Emergency Management (MN HSEM). Two years later, CLP received a second grant for $44,667 to extend its first project area. By 2004, CLP had converted over six miles of their overhead power lines to underground cables. The change has proven to be the perfect weapon to fight the falling trees from damaging wind and ice storms.

On March 23, 2009, rain began to fall, which quickly turned to ice. Over the next 24 hours, the rain continued, the ice thickened, and the value of the underground power lines was proven. Since Lake County is almost 90 percent forestland, the customers CLP serves are literally tucked inside the forest. When a tree falls in this forest and no one is around to hear, it does make a noise: the noise of a power line being collapsed. On that day, the forest was full of noises: branches snapping, trees breaking, and power lines falling.

The ice storm was the worst in over 20 years, producing two inches of ice across the most densely populated area of rural Lake County and leaving 3,000 customers without power. By nightfall on March 24, CLP had restored power to all but 1,200 customers.

The mitigation project funded by FEMA through MN HSEM allowed CLP to focus its efforts on converting overhead power lines. Now, CLP can get power to hundreds of their customers within hours versus days since there were over six miles of lines that needed no repair.

If no mitigation had occurred, the power outages for the 3,000 customers would have been extended by several days. It would have taken much longer to clear the lines and rebuild them, leaving people in the cold all the while. As Steve Wattnem, General Manager of CLP, explains, "These projects are truly long-term mitigation. They reduce our costs of maintenance and repair as well as get power to our customers faster. The FEMA grant has paid for itself over and over; we should see a return of our taxpayer's investment for years to come!"

Activity/Project Location

Geographical Area:	**Single County (County-wide)**
FEMA Region:	**Region V**
State:	**Minnesota**
County:	**Lake County**

Key Activity/Project Information

Sector:	**Public**
Hazard Type:	**Severe Storm**
Activity/Project Type:	**Utility Protective Measures**
Activity/Project Start Date:	**05/2001**
Activity/Project End Date:	**11/2004**
Funding Source:	**Hazard Mitigation Grant Program (HMGP)**
Funding Recipient:	**Lifelines - Gas/Electric**
Funding Recipient Name:	**Cooperative Light and Power Association of Lake County**
Application/Project Number:	**1175.66, 1283.13**

Activity/Project Economic Analysis

Cost:	**$98,105.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster?	**Yes**
Federal Disaster #:	**1175 , 04/08/1997**
Federal Disaster Year:	**1997**
Value Tested By Disaster?	**Yes**
Tested By Federal Disaster #:	**1830 , 04/09/2009**
Repetitive Loss Property?	**Unknown**

Reference URLs

Reference URL 1:	**http://www.co.lake.mn.us/**
Reference URL 2:	**http://www.clpower.com/**

Main Points

No Main Points were entered.

Ice damage from DR-1830

Ice damage from DR-1830

Power Line Conversion Completed